REMARKS

The present application has been reviewed in light of the Office Action dated April 15, 2009. Claims 1, 2, and 5-8 are presented for examination, of which Claims 1, 2, 7, and 9 are in independent form. New Claim 9 has been added to provide Applicant with a more complete scope of protection. Claims 1, 2, and 7 have been amended to define aspects of Applicant's invention more clearly, but not to overcome any of the claim rejections discussed below. Favorable reconsideration is requested.

The Office Action states that Claims 1, 2, and 5-8 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application Publication No. 2001/0000068 (Isogai et al,). Applicants respectfully traverse the rejections and submit that independent Claims 1, 2, 7, and 9, together with the claims dependent therefrom, are patentably distinct from Isogai et al. for at least the following reasons.

The aspect of the present invention set forth in Claim 1 is directed to a photoelectric conversion device with a plurality of pixels arrange in a pixel region, and a peripheral circuit. The plurality of pixels and the peripheral circuit are disposed together on a substrate. Each pixel includes a photoelectric conversion region for converting light into a signal charge, and a transfer transistor for transferring the signal charge from the photoelectric conversion region. The peripheral circuit is arranged outside of the pixel region and includes a circuit for processing the signal charge.

The pixel region includes first and second semiconductor regions and the transfer transistor. The first semiconductor region is of a first conductivity type and is disposed in the

substrate of a second conductivity type that is opposite to the first conductivity type. The second semiconductor region is of the second conductivity type and is disposed in the substrate. The first and second semiconductor regions form the photoelectric conversion region and accumulate the signal charge. The transfer transistor is disposed in the first semiconductor region.

The peripheral circuit includes a third semiconductor region of the first conductivity type disposed in the substrate, such that a transistor forming the peripheral circuit is arranged in the third semiconductor region. An impurity concentration of the first semiconductor region is higher than an impurity concentration of the third semiconductor region, and the first semiconductor region extends deeper into the substrate than the third semiconductor region.

It is alleged in the Office Action that Isogai et al. discloses a photoelectric conversion region including a first semiconductor region of a first conductivity type disposed in a substrate of a second conductivity type that is opposite to the first conductivity type. Applicants cannot agree with this interpretation of Isogai et al.

As understood by Applicants, Isogai et al. discloses a photoelectric conversion device that includes an n-type semiconductor substrate 100. A photodiode 1, a JFET 2, a reset drain 4, and an overflow-control region 6a are formed in an n-type semiconductor layer 101 formed on the n-type semiconductor substrate 100. Applicants note, however, that the n-type semiconductor substrate 100 cannot be construed as the first semiconductor region, because the n-type semiconductor substrate 100 is not disposed in another substrate of a second conductivity type that is opposite to n-type conductivity of the semiconductor substrate 100. Isogai et al. teaches that the n-type semiconductor substrate 100 is a base with the n-type semiconductor layer

101 formed thereon. The n-type semiconductor layer 101, therefore, also cannot constitute a first semiconductor region of a first conductivity type disposed in a substrate of a second conductivity type that is opposite to the first conductivity type, as claimed in Claim 1, because both the substrate 100 and the semiconductor layer 101 are n-type. As such, Isogai et al. fails to disclose or suggest the first semiconductor region of Claim 1.

In summary, nothing has been found in Isogai et al. that is believed to teach or suggest a photoelectric conversion device with a plurality of pixels arranged in a pixel region, in which the pixel region includes "a first semiconductor region of a first conductivity type disposed in the substrate of a second conductivity type that is opposite to the first conductivity type, a second semiconductor region of the second conductivity type disposed in the substrate, such that the first and second semiconductor regions form the photoelectric conversion region and accumulate the signal charge, and the transistor for transferring disposed in the first semiconductor region," and in which "the peripheral circuit includes a third semiconductor region of the first conductivity type disposed in the substrate, such that a transistor forming the peripheral circuit is arranged in the third semiconductor region," as recited in Claim 1, as well as other features of Claim 1. Accordingly, Applicants submit that Claim 1 is not anticipated by Isogai et al., and respectfully request withdrawal of the rejection under 35 U.S.C. § 102(b).

Independent Claims 2, 7, and 9 include features similar to those of Claim 1 discussed above, and are believed to be patentable for at least the reasons discussed above. The other claims in the present application depend from Claim 2 or Claim 7 and therefore are submitted to be patentable for at least the same reasons. However, because each dependent claim

also is deemed to define an additional aspect of the invention, individual or reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and an early passage to issue of the present application.

No petition to extend the time for response to the Office Action is deemed necessary for this Amendment. If, however, such a petition is required to make this Amendment timely filed, then this paper should be considered such a petition and the Commissioner is authorized to charge the requisite petition fee to Deposit Account 50-3939.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

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